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Final Summary Overview

Firearm Legislation and Firearm Violence Across Space and Time: A Comprehensive Data

Collection Effort

Project Number 2014-R2-CX-0004

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Purpose

This project's main purpose is to facilitate research that will further understanding on firearm legislation and its impacts on violence. We do so through a comprehensive data collection effort that includes information on firearm legislation implemented across U.S. states over time in combination with multiple measures of firearm-related violence and injury. Moreover, to better understand the conditions under which firearm legislation is more or less effective we incorporate information on state and county-level indicators of firearm prevalence, firearm shops, enforcement of firearm laws, social norms about firearm ownership, demographics on racial and economic inequality, and access to healthcare like emergency care and mental health services. Incorporation of these county characteristics allows for examination of whether the effectiveness of state-level firearm legislation depends upon particular characteristics of counties. These data also allow for leveraging of change in both firearm legislation and county characteristics over time to better understand how firearm legislation emerges and impacts firearm violence.

Without these data, policy makers have little ability to propose evidence-based policies that maximize safety and reduce morbidity/mortality without infringing on constitutional rights. (Wellford, Pepper, and Petrie 2004). Our efforts to compile comprehensive data that are usable, credible and accessible are meant to allow researchers ready access to some of the most of often used and relevant data for firearms research in the United States without having to seek out multiple isolated datasets. Doing so allows for an unparalleled examination of firearm legislation with a focus on the characteristics of counties likely to shape firearm

legislation impacts on firearm violence while also allowing future researchers to easily merge in new state or county level data as needed that may be useful for future firearms research.

Design

We constructed a comprehensive, longitudinal dataset of all counties nested within U.S. states from 1970 to 2010. The data include detailed indicators of firearm legislation for states. But the effectiveness of legislation is likely to depend upon local characteristics, so we also included county-level measures of firearm prevalence, accessibility, and violence including firearm-related homicide, mass murder, suicide, robbery, and assault as well as concepts measuring enforcement of legislation, demographic indicators including race and economic inequality, indicators of the norms surrounding firearms, and access to emergency and mental health services. Utilizing data archived by the National Archive of Criminal Justice Data and other publically available sources we have constructed longitudinal county-level measures of our outcomes including firearm-related: homicide, mass murder, robbery and assault. We have also constructed a measure of county-level efforts to enforce legislation using data from the Uniform Crime Reports (UCR) Police Employee, County-Level Arrests, and Offenses Known to Police Data.

Methods

Our most important contribution is a novel data collection of variables capturing the presence of firearm legislation in a state over the time period of 1970-2010. We focus on state-level firearm legislation due to the prevalence of “preemption laws” which prevent municipal and local-level firearm regulations from conflicting with state legislation. Our data on state firearm legislation comes from an extension of state firearm legislation compiled by Vernick

and Hepburn with legal data on all 50 states from 1979 to 1999 (Vernick and Hepburn 2003). We then used legal references provided by the Law Center to Prevent Gun Violence (LCPGV) with current legal data for all U.S. states. Using legal databases from Nexis Lexis and Hein Online, we extend Vernick and Hepburn's data using the legal citations provided by the LCPGV in *Gun Laws Matter* to create a longitudinal dataset of state-level firearms laws. Categories of legislation that we incorporated into our data include information on background checks, private sales and regulations of firearm dealers, regulations on classes of firearms, waiting periods, permits to purchase, concealed carrying, local authority to regulate firearms, and ages to purchase or possess handguns. Each piece of legislation is coded separately as present or not present for each state-year.

Data on firearm homicide and mass murder come from the Uniform Crime Reports Supplementary Homicide Reports (SHR). The SHR consists of homicides reported to police, along with details on victims and offenders for each homicide. By using the first offender weapon variable in the SHR, we construct county counts of firearm homicide by aggregating counts from all the law enforcement agencies in a county. We use the FBI definition of mass murder as an offender who kills four or more people in a single occasion (Fox and DeLateur 2013; Robert J. Morton and Mark A. Hilts 2005). Data for rates of non-fatal firearm violence comes from the UCR Offenses Known and Clearances by Arrest data. Another important variable constructed using UCR program data is a measure of law enforcement for firearm legislation using the number of weapons' arrests and the number of sworn law enforcement officers (Kleck 2004; Kleck and Patterson 1993). Weapons arrest data came from NACJD county

level estimates of arrests and law officer data came from the UCR Law Enforcement Officers Killed and Assaulted reports.

To construct a measure of firearm prevalence, we use the proxy measure of the proportion of suicides committed with a firearm in a county (Cook and Ludwig 2006; Fleegler EW et al. 2013). Data on suicides comes from the Compressed Mortality Files, produced by the National Center of Health Statistics. In our final database we have provided the proportion of suicides committed with firearm for all counties with available data. However we are unable to report the raw number for counties with suicide outcomes that total less than ten due to data restriction agreements with the NCHS. We also provide here the number of Federal Firearms Licensees (FFLs) from the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) to provide county counts of retail gun outlets and pawn shops that deal firearms. Unlike gun show or private sales of guns, FFLs are required by law to have an established business location where they operate.

We also include four types of data around norms of firearm ownership: 1) the number of National Rifle Association (NRA) members in a state, 2) the state's total annual number of paid hunting licenses issued, 3) the county percentage voting republican in presidential elections, and 4) the number of rural residents in a county. Data for State NRA membership comes from annual subscription numbers to NRA magazines, provided by the Audited Bureau of Circulations (Duggan 2000; Kleck 2004). State hunting license data are from the US Fish and Wildlife Service. County-level data on the percentage voting republican in presidential elections and rural residential rates come from the US Census and CQ press. We have also included a range of measures on the presence of racial and ethnic minorities in counties from the US Census, as

well as the number of county residents that live in rural and urban areas. Additionally, we include a measure of rurality using the United State Department of Agriculture's Rural-Urban Continuum Codes.

We have also provided in this dataset a number of measures on county-level mental health services and healthcare from the Department of Health and Human Services' Area Health Resource File to measure mental health services, we employ AHRF county-level data on the number of: physicians specializing in psychiatric care, short-term general hospitals specializing in psychiatric services and long-term hospitals for psychiatric care. To measure healthcare services with the potential to independently reduce firearm mortality, we use the number of short-term general and long term hospitals with general and surgical care, and the number of medical physicians specializing in emergency medicine and surgery. Finally, we include Census measures on the total number of residents in a county so that per capita rates may be calculated for all of the above mentioned variables.

Analysis

In addition to creating a new database on firearm legislation with state and county-level indicators relevant to research on firearms violence, an aim of this project was to explore the determinates that lead to firearm legislation being implemented and the consequences they have for firearm behaviors. Our project has produced to two studies using event-history analyses to examine the passage of concealed carry weapons (CCW) laws at the state level. These analyses were conducted as part of a dissertation written by Trent Steidley which has produced two manuscripts. One manuscript has been accepted for publication in the journal *Mobilization*, while the second is being prepared for submission to a criminology journal. We

also anticipate that other researchers will benefit from these data and conduct their own analyses to examine those phenomena.

Findings

In the first analysis by Steidley, this project examined the passage of CCW laws as a politically mediated outcome between gun rights activism, public opinion, and political opportunities in a state. While previous studies of CCW laws presume the gun rights movement and the NRA are important factors of CCW adoption, none have empirically tested the argument (see: Ghent and Grant 2015; Grossman and Lee 2008; Mixon and Gibson 2001). We found that state-level NRA membership indeed influences CCW adoption, but this influence is moderated by public opinion, political ideologies, electoral competition, and to a lesser extent political allies. These findings lend strong support to the idea of social movements operating through interactive “joint effects” (Giugni 2004). NRA membership is consistently found to have a positive association with CCW adoption. The presence of a large and organized SMO in the form of the NRA offers a “boost” to the odds of CCW adoption based upon existing public opinion, citizen ideology, and electoral competition.

In the second analysis by Steidley, this project examined criminological theories of collective security to explore if CCW laws can be understood as a state response to crime. Using event-history analyses we tested whether CCW laws were a state effort to regulate firearm carrying as a form of self-help for crime protection that is still regulated by the state. Findings indicate that states with higher crime rates and levels of police strength interacted to affect a state’s odds of CCW law adoption. Specifically, we found that higher crime rates are associated with increases in a state’s odds for CCW law adoption, but that increases in the level of police

strength in a state could reduce such odds. This moderating relationship also finds that when law enforcement capacity is low in a state, the odds of CCW law adoption are high regardless of the crime rate. These results indicate that states experiencing higher crime rates but not a larger law enforcement capacity will experience sizable increases in their odds of CCW law adoption.

Implications for CJ Policy

This project's long term goal is to provide an easily accessible database for criminal justice scholars to access in order to facilitate timely research on firearms in the United States. As other scholars obtain new or unique databases to examine firearm-related topics, we anticipate this database will over a useful resource on firearm legislation and other often used measures relevant to firearms research that scholars can utilize in their own work. It is our hope that such research will help policy development.

Our own analyses with these data also have policy implications. Researchers, politicians, and advocates have all debated the efficacy of CCW laws to affect crime rates (Donohue 2003; Kovandzic and Marvell 2003; Wellford et al. 2004). However, few have asked what lead to CCW laws being implemented in the first place. Studies often assume that CCW laws come into existence independently, and little is known about what factors lead to CCW law adoption (Wellford et al. 2004). Our analyses from Steidley's dissertation demonstrate that the rapid transformation of "shall-issue" CCW laws from a relatively rare policy in the 1980s into the new normal for state-level concealed handgun policy did not occur randomly. The NRA as a political organization helped facilitated the adoption of CCW laws through the presence of its membership in a state along with existing political opportunity structures, public opinion, and

electoral environments in a state. Similarly, we find that CCW laws are also the result of a state's capacity for law enforcement and the level of violent crime in a state. These findings suggest that crime and politics not just important to exploring how effect CCW laws are as policy, but also to understanding how CCW laws emerged in the first place.

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